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L1	semiconductor and irradiat$ and laser and amorphous and recrystalliz$	14	L1
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L9	L4 and front and back	62	L9

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Search Results - Record(s) 1 through 14 of 14 returned.

☐ 1. Document ID: JP 2002280300 A

L1: Entry 1 of 14 File: DWPI Sep 27, 2002

DERWENT-ACC-NO: 2003-062903
DERWENT-WEEK: 200306

TITLE: Semiconductor thin film formation method for thin film transistor manufacture, involves adding nickel catalyst into source area to grow crystal grains and performing recrystallization by laser irradiation

Basic Abstract Text (1):
NOVELTY - An amorphous silicon film is patterned to form silicon area (5) surrounding a source area (2) for connecting the source area with a target area (3). A nickel is added as catalyst to the source area and heated to grow crystal grains in the source and target areas. The crystal grains in the target area and silicon area are recrystallized by irradiating laser beam.

Basic Abstract Text (2):
USE - For forming semiconductor thin film on substrate during manufacture of thin film transistor, insulated gate type field effect semiconductor device, diode used in active matrix type liquid crystal display.

Basic Abstract Text (3):
ADVANTAGE - Ensures the precise recrystallization of target area thereby crystal layer of desired thickness is obtained uniformly.

Basic Abstract Text (4):
DESCRIPTION OF DRAWING(S) - The figure shows an explanatory diagram representing semiconductor thin film formation.

Standard Title Terms (1):
SEMICONDUCTOR THIN FILM FORMATION METHOD THIN FILM TRANSISTOR MANUFACTURE ADD NICKEL CATALYST SOURCE AREA GROW CRYSTAL GRAIN PERFORMANCE RECRYSTALLISATION LASER IRRADIATE

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 20020072252 A1 CN 1348200 A JP 2002158173 A KR 2002019419 A

L1: Entry 2 of 14 File: DWPI Jun 13, 2002

DERWENT-ACC-NO: 2002-557092
DERWENT-WEEK: 200320

TITLE: Thin film production for semiconductor devices, involves irradiating raw thin film containing volatile gas with excimer laser beam having preset pulse width, to remove volatile gas from raw thin film

Basic Abstract Text (1):
NOVELTY - A raw thin film containing a volatile gas, is irradiated with an excimer laser beam having a pulse width of 60 ns or more, to remove the volatile gas from the raw thin film and a thin film is obtained.

Basic Abstract Text (2):
DETAILED DESCRIPTION - The raw thin film containing volatile gas is a semiconductor thin film. The semiconductor thin film contains amorphous silicon film or polycrystalline silicon film. The film contains volatile gas as atoms which are selected from atom of hydrogen, helium, argon, neon, krypton and xenon. The excimer laser is selected from argon, krypton, xenon, fluorine, chlorine, krypton fluoride, krypton chloride, xenon chloride, xenon fluoride, xenon bromide, xenon iodide, argon fluoride, argon chloride, mercury chloride, mercury bromide, mercury iodide, mercury-cadmium, cadmium iodide, cadmium bromide, zinc iodide, sodium-xenon, xenon teluride, argon oxide, krypton oxide, xenon oxide, krypton sulfide, xenon sulfide, xenon selenide, magnesium (Mg2) and mercury (Hg2).

Basic Abstract Text (4):
(1) Semiconductor thin film;

Basic Abstract Text (5):
(2) Semiconductor device having semiconductor thin film formed on substrate;

Basic Abstract Text (6):
(3) Process for producing semiconductor thin film; and

Basic Abstract Text (7):
(4) Apparatus for producing semiconductor thin film.

Basic Abstract Text (8):
USE - For production of thin film, particularly semiconductor thin film for semiconductor devices (claimed).

Basic Abstract Text (9):
ADVANTAGE - The production method effectively reduces the content of volatile gas such as hydrogen in the thin film. The degassed thin film is recrystallized in a short time without breaking by irradiation of laser beam, particularly during multi- stage irradiation. Uniform heating leads to uniform degassing or removal of volatile gas such as hydrogen from the thin film. The amorphous silicon film is prevented from exploding, by effective degassing which precedes crystallization. The high quality crystalline semiconductor thin film with high productivity and semiconductor devices, are efficiently produced.

Standard Title Terms (1):
THIN FILM PRODUCE SEMICONDUCTOR DEVICE IRRADIATE RAW THIN FILM CONTAIN VOLATILE GAS EXCIMER LASER BEAM PRESET PULSE WIDTH REMOVE VOLATILE GAS RAW THIN FILM

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 3. Document ID: JP 2002118119 A

L1: Entry 3 of 14 File: DWPI Apr 19, 2002

DERWENT-ACC-NO: 2002-483674
DERWENT-WEEK: 200252

TITLE: Field effect transistor manufacturing method involves forming impurity area in semiconductor thin film after recrystallization

Basic Abstract Text (1):
NOVELTY - The amorphous semiconductor thin film containing carbon, nitrogen and oxygen

of concentration less than 5 multiply 1019/cm3 is recrystallized after laser irradiation. The impurity area is formed in the semiconductor thin film, and the film is crystallized.

Basic Abstract Text (3):
ADVANTAGE - Crystallinity of the semiconductor material is improved using simple technique.

Basic Abstract Text (4):
DESCRIPTION OF DRAWING(S) - The figure depicts the ratio of the intensity of single crystal component and amorphous component of the field effect transistor. (Drawing includes non-English language text).

Patent Assignee Terms (1):
SEMICONDUCTOR ENERGY LAB

Patent Assignee Terms (1):
SEMICONDUCTOR ENERGY LAB

Standard Title Terms (1):
FIELD EFFECT TRANSISTOR MANUFACTURE METHOD FORMING IMPURE AREA SEMICONDUCTOR THIN FILM AFTER RECRYSTALLISATION

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 4. Document ID: JP 2002110694 A

L1: Entry 4 of 14 File: DWPI Apr 12, 2002

DERWENT-ACC-NO: 2002-458560
DERWENT-WEEK: 200253

TITLE: Thin film transistor production, e.g. for thin film FET, involves melting amorphous thin film and allowing to recrystallize to attain specific peak value of Raman shift of wave number

Basic Abstract Text (1):
NOVELTY - Amorphous thin film in channel formation area contains carbon, nitrogen and oxygen of concentration below 5X109 per cubic centimeter. The thin film is melted by irradiating it with ultraviolet laser, and is allowed to recrystallize such that peak value Raman shift of wave number is more than 515 per cm or more wave number.

Basic Abstract Text (4):
ADVANTAGE - Crystallinity of semiconductor thin film is improved using optic energy. Electron mobility improvement of amorphous film is improved, with good reproducibility.

Patent Assignee Terms (1):
SEMICONDUCTOR ENERGY LAB

Patent Assignee Terms (1):
SEMICONDUCTOR ENERGY LAB

Standard Title Terms (1):
THIN FILM TRANSISTOR PRODUCE THIN FILM FET MELT AMORPHOUS THIN FILM ALLOW RECRYSTALLISATION ATTAIN SPECIFIC PEAK VALUE RAMAN SHIFT WAVE NUMBER

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 5. Document ID: JP 2001284251 A

L1: Entry 5 of 14 File: DWPI Oct 12, 2001

DERWENT-ACC-NO: 2002-220806
DERWENT-WEEK: 200228

TITLE: Semiconductor device manufacture, e.g. for thin film transistor, involves polishing protrusions formed by irradiating laser to amorphous silicon film formed on insulating substrate

Basic Abstract Text (1):
NOVELTY - An amorphous silicon film (12) is formed on an insulating substrate (10). The amorphous silicon film is irradiated with laser light to perform melting recrystallization of the amorphous silicon film such that protrusions (100) are formed. Protrusions are removed by polishing.

Basic Abstract Text (2):
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for semiconductor device.

Basic Abstract Text (4):
ADVANTAGE - As projections are removed by polishing, the surface of amorphous silicon film is made flat to improve properties of semiconductor device.

Basic Abstract Text (5):
DESCRIPTION OF DRAWING(S) - The figure shows section of semiconductor device manufacture.

Basic Abstract Text (7):
Amorphous silicon film 12

Standard Title Terms (1):
SEMICONDUCTOR DEVICE MANUFACTURE THIN FILM TRANSISTOR POLISH PROTRUDE FORMING IRRADIATE LASER AMORPHOUS SILICON FILM FORMING INSULATE SUBSTRATE

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 6. Document ID: JP 2001126987 A

L1: Entry 6 of 14 File: DWPI May 11, 2001

DERWENT-ACC-NO: 2001-403344
DERWENT-WEEK: 200143

TITLE: Crystalline semiconductor film manufacture for use in thin film transistor manufacture, involves radiating laser beam of different energies on amorphous silicon film to perform crystallization and recrystallization

Basic Abstract Text (1):
NOVELTY - Laser beam with energy (E1) is irradiated one or more times on an amorphous silicon film formed on glass substrate (15), to form crystals with large particle size. Then, laser beam of energy (E2) smaller than energy (E1), is irradiated on the amorphous silicon film, so that recrystallization of the generated fine crystals is performed.

Basic Abstract Text (5):
USE - For manufacturing crystalline semiconductor film used for manufacture of thin

film transistor (TFT) used in liquid crystal display (LCD) devices for portable TV, computer, etc.

Basic Abstract Text (6):
ADVANTAGE - Improves the performance of thin film transistor by enabling crystallization and recrystallization.

Standard Title Terms (1):
CRYSTAL SEMICONDUCTOR FILM MANUFACTURE THIN FILM TRANSISTOR MANUFACTURE RADIATE LASER BEAM ENERGY AMORPHOUS SILICON FILM PERFORMANCE

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Drawi Desc | Image

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7. Document ID: US 6080606 A

L1: Entry 7 of 14 File: DWPI Jun 27, 2000

DERWENT-ACC-NO: 2000-531266
DERWENT-WEEK: 200142

TITLE: Amorphous silicon thin film transistor manufacturing method for AMLCD, involves stripping photoresist and toner after etching exposed gate insulator and amorphous silicon, to obtain thin film transistor

Basic Abstract Text (1):
NOVELTY - A negative gate toner pattern is applied on photoresist deposited on stack. By irradiating UV light, the photoresist is exposed and developed. Electrical conductor deposited on toner and the photoresist, are lifted by exposing the stack to a stripper. Exposed gate insulator and amorphous silicon are etched. Then, the photoresist and toner are stripped to obtain the TFTs.

Basic Abstract Text (2):
DETAILED DESCRIPTION - Negative source-drain pattern is electrophotographically printed on a substrate using toner, to form a stack. The post baking of toner is performed. A portion of electrical conductor deposited on the toner is removed, by dissolving the toner with the solvent. A gate insulator is deposited on the amorphous silicon which is deposited on the top of stack. A passivation is deposited on bottom of stack. An INDEPENDENT CLAIM is also included for patterning sheet material.

Basic Abstract Text (3):
USE - For manufacturing amorphous silicon TFT for AMLCD. Also for manufacturing diodes, semiconductor IC for flat display panel.

Basic Abstract Text (4):
ADVANTAGE - Since the layer of amorphous silicon is inserted between the source-drain contacts and the undoped amorphous silicon layer, the performance of fabricated TFT can be improved. A drastic reduction of processes involved by allowing the use of high throughput, roll-to-roll or sheet fed type printing techniques to produce TFT arrays. Electrical conductivity of TFT can be increased by doping phosphine and by laser recrystallization. Avoids need for mask aligner, as surface of hydrogenated amorphous silicon is smooth for patterning.

Standard Title Terms (1):
AMORPHOUS SILICON THIN FILM TRANSISTOR MANUFACTURE METHOD STRIP PHOTORESIST TONER AFTER ETCH EXPOSE GATE INSULATE AMORPHOUS SILICON OBTAIN THIN FILM TRANSISTOR

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Drawi Desc | Image

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☐ 8. Document ID: JP 2000124151 A

L1: Entry 8 of 14 File: DWPI Apr 28, 2000

DERWENT-ACC-NO: 2000-372430
DERWENT-WEEK: 200032

TITLE: Semiconductor manufacturing apparatus has one or more holding surfaces in substrate holder, with vertically arranged holding surface slightly inclined from vertical axis

Basic Abstract Text (2):
DETAILED DESCRIPTION - Polycrystal or amorphous semiconductor material is fused and is recrystallized by laser irradiation.

Basic Abstract Text (3):
USE - For melting and recrystallization of polycrystal or amorphous semiconductor material, for manufacturing thin film transistor in liquid crystal display.

Basic Abstract Text (4):
ADVANTAGE - Since the holder surfaces are slightly inclined, adherence of dust on semiconductor material is prevented. Laser beam is absorbed quickly and heat energy is maintained due to use of carbon as holder material. By provision of silicon carbide coating on carbon made holder, evaporation of carbon and contamination inside the process chamber by heating are prevented. Semiconductor material with overall uniform crystallinity is obtained and productivity is improved.

Basic Abstract Text (5):
DESCRIPTION OF DRAWING(S) - The diagram shows the semiconductor manufacturing apparatus.

Standard Title Terms (1):
SEMICONDUCTOR MANUFACTURE APPARATUS ONE MORE HOLD SURFACE SUBSTRATE HOLD VERTICAL ARRANGE HOLD SURFACE SLIGHT INCLINE VERTICAL AXIS

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 9. Document ID: JP 2000082669 A

L1: Entry 9 of 14 File: DWPI Mar 21, 2000

DERWENT-ACC-NO: 2000-288660
DERWENT-WEEK: 200025

TITLE: Polycrystalline semiconductor film manufacturing method for solar battery, involves carrying out melting recrystallization of semiconductor film with a mask over it, by irradiating laser light from excimer laser source

Basic Abstract Text (1):
NOVELTY - A polycrystalline semiconductor film manufacture involves arranging an amorphous semiconductor film on a board. A phase control mask containing pattern, is formed over the semiconductor film. Melting recrystallization of semiconductor film is carried out by irradiating laser light. A large-sized seed crystal is grown by the diffraction of laser radiation.

Basic Abstract Text (2):
DETAILED DESCRIPTION - The pattern in the mask is formed by silicon oxide film. The thickness of the mask varies in sinusoidal-wave shape. From the seed crystal, pillared

crystal is grown by sputtering or chemical vapor growth. The mask controls the phase difference of incident wave of laser light.

Basic Abstract Text (3):
USE - For manufacturing polycrystalline semiconductor film used in solar batteries (claimed).

Basic Abstract Text (4):
ADVANTAGE - Crystal with larger diameter is easily obtained at low temperature. Melting recrystallization of the semiconductor film is carried out by irradiating laser light. Since the process temperature is low, the thin film solar battery with high efficiency is obtained easily and the manufacture is simplified.

Basic Abstract Text (5):
DESCRIPTION OF DRAWING(S) - The figure shows the conceptual diagram of polycrystalline semiconductor film manufacturing method.

Standard Title Terms (1):
POLYCRYSTALLINE SEMICONDUCTOR FILM MANUFACTURE METHOD SOLAR BATTERY CARRY MELT SEMICONDUCTOR FILM MASK IRRADIATE LASER LIGHT EXCIMER LASER SOURCE

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

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☐ 10. Document ID: JP 07147259 A

L1: Entry 10 of 14 File: DWPI Jun 6, 1995

DERWENT-ACC-NO: 1995-238019
DERWENT-WEEK: 199748

TITLE: TFT processing for transparent type LCD - involves recrystallisation polycrystalline semiconductor thin film by irradiating to light of short wavelength

Basic Abstract Text (1):
The processing involves formation of thin polycrystalline semiconductor film (14) on an amorphous substrate (1). A channel (14c) is formed on a central domain of this thin film on irradiation by a laser light (10) of wavelength in short wavelength range of 100 - 400 nm.

Basic Abstract Text (2):
ADVANTAGE - Eases manufacturing. Improves performance of quality. Allows formation of TFT on low heat resistant amorphous substrate. Performs recrystallization and activation at room temperature not raising temperature of whole substrate. Improves carrier mobility.

Standard Title Terms (1):
TFT PROCESS TRANSPARENT TYPE LCD RECRYSTALLISATION POLYCRYSTALLINE SEMICONDUCTOR THIN FILM IRRADIATE LIGHT SHORT WAVELENGTH

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

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☐ 11. Document ID: JP 07106248 A

L1: Entry 11 of 14 File: DWPI Apr 21, 1995

DERWENT-ACC-NO: 1995-188838
DERWENT-WEEK: 199525

TITLE: Semiconductor thin film formation method for TFT manufacturing - involves recrystallising part of semiconductor thin film which is made amorphous

Basic Abstract Text (1):
The method involves irradiating a layer light (203) on a semiconductor thin film (201) and crystallizing it. An ion beam is irradiated on the semiconductor thin film. The domain of the semiconductor thin film corresponding to the part irradiated with laser light is made amorphous by the iron beam. The part of the semiconductor thin film which is made amorphous is recrystallized.

Basic Abstract Text (2):
ADVANTAGE - Reduces high defect domain of crystal of domain corresponding to overlap part of where layer light is irradiated. Reduces variation in characteristic of semiconductor element. Improves performance of electronic circuit consisting of semiconductor element.

Standard Title Terms (1):
SEMICONDUCTOR THIN FILM FORMATION METHOD TFT MANUFACTURE RECRYSTALLISATION PART SEMICONDUCTOR THIN FILM MADE AMORPHOUS

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 12. Document ID: JP 07099321 A US 5648276 A

L1: Entry 12 of 14 File: DWPI Apr 11, 1995

DERWENT-ACC-NO: 1996-405106
DERWENT-WEEK: 199734

TITLE: Thin film semiconductor element mfr. e.g. TFT - involves forming polycrystalline silicon@ thin film in laser annealing chamber under reduced pressure conditions after which it is conveyed to CVD and hydrogenation chambers

Basic Abstract Text (1):
The method involves forming an amorphous Si:H thin film onto a wafer which is dissolved and the beam which recrystallized by irradiating laser light in a laser annealing chamber (C3) under reduced pressure or inert gas environment, thus forming a polycrystalline Si thin film. A gate insulating film is formed over the clean surface of the polycrystalline thin film within the CVD chamber.

Basic Abstract Text (3):
ADVANTAGE - Realizes thin film semiconductor element with high performance characteristics and high reliability. Raises mfr efficiently. Obtains element with good homogeneity.

Equivalent Abstract Text (1):
A method for making a thin film semiconductor device, comprising the steps of:

Equivalent Abstract Text (6):
(e) laser annealing to convert the a-Si:H,P and a-Si:H layers into a first polycrystalline Si layer having defined n+-type source and drain regions and having a first crystal grain size;

Equivalent Abstract Text (8):
(g) laser annealing to convert the second a-Si:H and first polycrystalline Si layers into a second polycrystalline Si film having a second crystal grain size larger than the first crystal grain size;

Equivalent Abstract Text (14):

• A method for making a thin film semiconductor device, comprising the steps of:

Equivalent Abstract Text (19):
(e) laser annealing to convert the a-Si:H,P and a-Si:H layers into a polycrystalline Si film having defined n+-type source and drain regions;

Standard Title Terms (1):
THIN FILM SEMICONDUCTOR ELEMENT MANUFACTURE TFT FORMING POLYCRYSTALLINE SILICON@ THIN FILM LASER ANNEAL CHAMBER REDUCE PRESSURE CONDITION AFTER CONVEY CVD HYDROGENATION CHAMBER

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 13. Document ID: JP 07078760 A

L1: Entry 13 of 14 File: DWPI Mar 20, 1995

DERWENT-ACC-NO: 1995-152538
DERWENT-WEEK: 199520

TITLE: Crystal growth and channel formation method for MOS transistor - by carrying out energy beam irradiation and forming recrystallisation domain on which channel domain is formed

Basic Abstract Text (1):
The formation method involves provision of an amorphous semiconductor laser (13) as an insulation layer (12) of a semiconductor substrate (11). An ion-implantation mask (15) is formed at a predetermined region on the amorphous layer domain (16) which does not introduce impurity, is then formed by slanting ion-implantation method at the lower part of the ion- implantation mask. Then by a solid-phase growth annealing process, with a crystal grain (18), a crystal domain (19) is formed. This crystal grain has more specific surface bearing from that of the domain which does not introduce impurity. Then by energy-beam irradiation, the crystal domain is dissolved to form recrystallization domain. Finally, a channel domain is formed in the crystal domain or the recrystallization domain.

Standard Title Terms (1):
CRYSTAL GROWTH CHANNEL FORMATION METHOD MOS TRANSISTOR CARRY ENERGY BEAM IRRADIATE FORMING RECRYSTALLISATION DOMAIN CHANNEL DOMAIN FORMING

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 14. Document ID: EP 598394 A2 US 36371 E JP 06208133 A JP 06224276 A US 5372836 A US 5413958 A CN 1088002 A JP 08129189 A US 5529630 A EP 598394 A3 SG 46344 A1 TW 343289 A

L1: Entry 14 of 14 File: DWPI May 25, 1994

DERWENT-ACC-NO: 1994-169074
DERWENT-WEEK: 199953

TITLE: LCD substrate mfg. method esp. driver circuit for TFT switching element - forming large area hydrogenated amorphous silicon film, and applying sequential laser beam pulses with monotonically increasing energy onto film to raise surface temp. to about 1200 deg. C and convert surface to polysilicon

Basic Abstract Text (1):
The LCD substrate mfg. method, with drive circuit sections (4) for semiconductor elements in a pixel region of the substrate, involves forming an amorphous semiconductor film (2) e.g Si on a glass substrate by CVD and changing target suraface island amorphous Si regions into polycrystalline silicon region (21). The polysilicon island regions are arranged in line, separated a set distance, and are formed using intermittent application of laser pulses with a cross-section of dimension equal to the required target island shape.

Basic Abstract Text (2):
Drive circuitry is formed in the island polysilicon regions, which are outside the pixel regions and are pref. rectangular. The switching elements are formed e.g. by etching and film deposition in the pixel region, electrically connected to the drive circuitry by parts of the amorphous Si film (51). The drive circuitry includes date drivers and source drivers for the pixel TFTs. Pref. the laser pulses are applied with increasing energy.

Equivalent Abstract Text (1):
The LCD substrate mfg. method, with drive circuit sections (4) for semiconductor elements in a pixel region of the substrate, involves forming an amorphous semiconductor film (2) e.g Si on a glass substrate by CVD and changing target suraface island amorphous Si regions into polycrystalline silicon region (21). The polysilicon island regions are arranged in line, separated a set distance, and are formed using intermittent application of laser pulses with a cross-section of dimension equal to the required target island shape.

Equivalent Abstract Text (2):
Drive circuitry is formed in the island polysilicon regions, which are outside the pixel regions and are pref. rectangular. The switching elements are formed e.g. by etching and film deposition in the pixel region, electrically connected to the drive circuitry by parts of the amorphous Si film (51). The drive circuitry includes date drivers and source drivers for the pixel TFTs. Pref. the laser pulses are applied with increasing energy.

Equivalent Abstract Text (4):
A polycrystalline silicon film for use in the mfr. of LCD devices is produced by initially depositing a hydrogenated amorphous silicon film (alpha-Si:H film) on the surface of a glass substrate where the pixel portion and driver unit are to be located. The film in the driver zone is repeatedly treated with a controlled energy laser beam which causes the release of hydrogen from the film. The beam energy being increased whenever successive irradiations cause decreasing amts. of hydrogen to be released.

Equivalent Abstract Text (5):
Finally the beam energy is raised to a second level sufficient to cause the film to recrystallize into a polycrystalline silicon film. Pref. during recrystallisation the glass substrate is heated to about 300 deg. C..

Equivalent Abstract Text (7):
The method involves forming an amorphous semiconductor film on the substrate, then intermittently applying laser beam pulses having a cross section of set dimensions, onto target surface regions of the amorphous semiconductor film. That is arranged for changing the target surface regions into island-shaped polycrystalline regions having dimensions identical to the set dimensions.

Equivalent Abstract Text (9):
forming the semiconductor elements in the pixel region and electrically connecting the semiconductor elements to the drive circuit sections, by using parts of the amorphous semiconductor film.

Equivalent Abstract Text (11):
An apparatus for forming a thin crystalline semiconductor film comprising:

Equivalent Abstract Text (13):

means located within said processing chamber, for supporting an object having an amorphous semiconductor film;

Equivalent Abstract Text (14):
laser beam applying means for applying a laser beam onto a target region of the amorphous semiconductor film, to thereby effecting annealing on the target region;

Equivalent Abstract Text (15):
memory means for storing first information which represents a band-gap spectral reflectance distribution pertaining to a reference semiconductor material;

Equivalent Abstract Text (16):
laser-beam spectrum detecting means for detecting the laser beam applied onto said target region and reflected therefrom and for obtaining second information which represents a band-gap spectral reflectance distribution pertaining to said target region;

Equivalent Abstract Text (18):
laser-beam energy adjusting means for adjusting energy of the laser beam on the basis of the crystallized condition evaluated by said evaluation means, to thereby reducing a difference between said first information and said second information into a predetermined range.

Standard Title Terms (1):
LCD SUBSTRATE MANUFACTURE METHOD DRIVE CIRCUIT TFT SWITCH ELEMENT FORMING AREA HYDROGENATION AMORPHOUS SILICON FILM APPLY SEQUENCE LASER BEAM PULSE MONOTONIC INCREASE ENERGY FILM RAISE SURFACE TEMPERATURE DEGREE CONVERT SURFACE

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Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: EP 331811 A2

L6: Entry 1 of 1 File: EPAB Sep 13, 1989

DOCUMENT-IDENTIFIER: EP 331811 A2
TITLE: Semiconductor devices with silicon-on-insulator structures.

Abstract Text (1):
CHG DATE=19990617 STATUS=O> For fabricating a CMOS SOI structure on a silicon substrate (1) having a (110) plane an insulating SiO2 layer (2) is formed; an opening (2 min) is formed in the SiO2 layer to expose a part of the substrate (1); a polycrystalline or amorphous silicon layer (3) is deposited on the SiO2 (2) and in the opening (2 min); the deposited silicon layer (3) is divided into islands (3A, 3B) so that a first island (3A) includes the opening (2 min) whilst a second island (3B) does not; a laser light (LB) is irradiated onto the islands (3A, 3B) so as to melt the islands; when the laser light irradiation is discontinued the melted islands are recrystallized so that the first island (3AR) forms a (110) plane whilst the second island (3BR) forms a (100) plane; and on the first island (3AR) a p-channel MOS FET is fabricated whilst on the second island (3BR) an n-channel MOS FET is fabricated.

Full | Title CLS.1 REF.1 SEQ.1 ATT.1

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semiconductor and irradiat$ and laser and amorphous and recrystalliz$	1

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